

# JAPAN PRIZE NEWS

THE SCIENCE AND TECHNOLOGY  
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## Three US Scientists Awarded 2008 Japan Prize

Their Majesties the Emperor and Empress  
Attended the Presentation Ceremony



The presentation ceremony of the 2008 (24th) Japan Prize, the most prestigious and honored prize in the fields of science and technology, was held at the National Theatre in Tokyo on April 23, 2008.

The Prize is presented annually by the Science and Technology Foundation of Japan to scientists and researchers who have made substantial contributions to the advancement of science and technology and to the peace and prosperity of mankind.

The prize categories this year were "Information Communication Theory and Technology" and "Medical Genomics and Genetics." A total of 714 nominations were made by top scientists and academics around the world, 333 for the Information Communication Theory and Technology prize category and 381 for the Medical Genomics and Genetics prize category.

Out of those nominations, three scientists from the US were awarded the 2008 Japan Prize.

### OUTLINE

The Japan Prize is awarded to world-class scientists and technologists who were credited with original and outstanding achievements and contributed to the advancement of science and technology, thereby furthering the cause of peace and the prosperity of mankind. In principle, original achievements in science and technology are given priority during the selection process.

No distinction is made as to nationality, occupation, race, or

gender. Only living persons may be named.

Fields of study for the prize encompass all categories of science and technology, with two categories designated for the prize each year in consideration of developments in science and technology.

Each Japan Prize laureate receives a certificate of merit and a commemorative medal. A cash award of 50 million yen is also presented for each prize category.

## Information Communication Theory and Technology

### Achievement:

Creation of network architecture and communication protocol for the Internet



**Dr. Vinton G. Cerf**  
(U.S.A.)

Vice President and Chief Internet Evangelist, Google Inc.



**Dr. Robert E. Kahn**  
(U.S.A.)

Chairman, CEO & President of Corporation for National Research Initiatives (CNRI)

## Medical Genomics and Genetics

### Achievement:

Establishment of medical genetics and contributions to its development



**Dr. Victor A. McKusick**  
(U.S.A.)

University Professor of Medical Genetics, the McKusick- Nathans Institute of Genetic Medicine at the Johns Hopkins University

## The Presentation Ceremony

Their Majesties the Emperor and Empress attended the presentation ceremony at the National Theatre in Tokyo on April 23, 2008. About 1,000 distinguished guests attended the ceremony, including H.E. Mr. Yohei Kono, Speaker of the House of Representatives, H.E. Mr. Satsuki Eda, President of House of Councillors, H.E. Mr. Niro Shimada, Chief Justice of the Supreme Court, H.E. Mr. Fumio Kishida,

Minister of State for Science and Technology Policy, ambassadors to Japan, eminent scholars and researchers, and representatives from other fields including politics, finance, industry and the media.

The ceremony began with a rendition of "Overture Japan," a work composed by Minoru Miki for the ceremony and performed by the Tokyo Geidai Student Orchestra conducted by Hikotaro Yazaki.



Prof. Hiroyuki Yoshikawa, Chairman of the Foundation made the opening address and Dr. Nobuaki Kumagai, Chairman of the 2008 Japan Prize Selection Committee, introduced the three laureates. After the chairmen of the two selection panels presented the reasons for their selections, Foundation President Masao Ito presented the three laureates with their certificates of merit, commemorative medals and cash

awards of 50 million yen for each category.

His Majesty the Emperor gave a congratulatory address honoring the three laureates. Finally, a congratulatory speech by H.E. Mr. Yohei Kono, Speaker of the House of Representatives, was delivered.

After ceremony, the Tokyo Geidai Student Orchestra performed the commemorative concert.

## Address by His Majesty The Emperor

On the occasion of this Twenty-fourth Japan Prize presentation ceremony, I offer my sincere congratulations to Dr. Vinton G. Cerf and Dr. Robert E. Kahn for their work on “Information Communication Theory and Technology,” and to Dr. Victor A. McKusick for his work on “Medical Genomics and Genetics.”



Dr. McKusick founded the field of medical genetics, which investigates the relationship between illness and genes, and has devoted himself to research for over half a century. The fruits of his study were systematically compiled into a text that is considered throughout the world as essential reading for every clinician.

Until the early 1970s, telephone and radio communications were transmitted through their own separate networks, and it was impossible to connect different networks. In order to overcome this problem and to enable the transmission and reception of data between different networks, Dr. Cerf and Dr. Kahn developed the communication protocol known as TCP, which was presented in a joint paper published in 1974. This communication protocol was further reworked into the communication protocol called TCP/IP, which is used today in the Internet. The far-sighted efforts of these two professors led to today’s network society, which has dramatically transformed our whole way of life.

Furthermore, Dr. McKusick, who is also a founding member of the Human Genome Organization and has served at its helm, is a leading figure in human genome analysis, and has played a pivotal role in the development of medical treatments utilizing genetic codes.

Through their research, these three professors pioneered unmarked territories in their respective fields of information technology and medicine, and their accomplishments have brought countless benefits to people’s lives.

Let me express, in offering my congratulations, my wish that science and technology should continue to develop through cooperation across national boundaries, and contribute to the well-being of mankind.



Their Majesties the Emperor and Empress arrive at the National Theatre



Opening address by Chairman Yoshikawa



Introduction of the laureates by Dr. Kumagai



Citation for the award presented by Dr. Suematsu



Citation for the award presented by Dr. Matsubara



Congratulatory address by H.E. Mr. Kono



Their Majesties the Emperor and Empress attend the commemorative concert



Commemorative concert

## Banquet

Following the presentation ceremony, a banquet for the 2008 Japan Prize laureates was held at the Hotel New Otani in Tokyo on the evening of April 23 in the presence of Their Majesties the Emperor and Empress as well as 350 dignitaries including Japanese government officials, ambassadors and ministers, and celebrities from various fields.

And a congratulatory address was made by H.E. Mr. Satsuki Eda, President of the House of Councilors.

Prior to closing the banquet, the three laureates gave speeches of thanks and brought the elegant state banquet to its close.



Their Majesties the Emperor and Empress arrive at the Hotel New Otani



Opening address by President Ito



Congratulatory address by H.E. Mr. Eda



Acknowledgement by Dr. Cerf



Acknowledgement by Dr. Kahn



Acknowledgement by Dr. McKusick

## Volunteer support for Japan Prize Week

Various volunteers attended the 2008 Japan Prize Week events.

The participants were Dr. Kanami Orihara (National Research Institute for Child Health and Development), Ms. Yuki Arase (Osaka University), Ms. Yuriko Ino (Kyoto University), Mr. Hiroki Ishizuka (Tokyo Denki University), Mr. Tsuyoshi Katagiri (Tokyo University), Mr. Shoji Masamichi (Tsukuba University), Ms. Chisa Okada (Japan Women's University), Mr. Hiroki Orihara (Keio University), Ms. Miwako Sano (East Japan Railway Company), Mr. Ryo Tamaki (Tokyo University)

Comments from Mr. Hiroki Orihara follow:

It was a very exciting experience for me to participate in the 2008 Japan Prize Week, as a member of the volunteer team.

The presentation ceremony was held in the presence of Their Majesties, the Emperor and Empress. It was so wonderful. At the same time, I had great chances to talk with leading scientists

during the week. I cannot usually meet such eminent people at academic events and receptions. It was amazing to talk to scientists who are active in different fields from my major. They gave me so many new viewpoints. In the course of these discussions I also realized my lack of proficiency in English. I have to improve my English.

Associating with other volunteers, I was inspired by their keen consciousness as scientists. From now on I will tackle with my studies more vigorously. I want to make use of the motivation I gained from this marvelous experience.



## Photo recollections of laureates

### Dr. Cerf



▲ Dr. Vinton Cerf was born in New Haven, Connecticut. As a one-year-old, he looks very happy with his mother Muriel.

▼ Sigrid was an active and talented interior designer and translator.



▲ After six years with the Advanced Research Program Agency, Dr Cerf joined MCI in 1983 and helped launch commercial electronic mail system.

▼ At a 1999 Millennium Ball at the White House – with the First Lady, Mrs. Hilary Clinton.



### Dr. Kahn



▲ He was born in Brooklyn, New York. Look at his face. We can see he is a unyielding person.

▼ This team was in charge of designing the network system.



▲ He married then Ms. Patrice Lyons.

▼ President Clinton presented him and Dr. Cerf with U.S. National Medals of Technology.



### Dr. McKusick



Dr. Victor A McKusick was born in a dairy farm in the State of Maine. He has a twin brother, Vincent.

▼ An outing in 1964 with their three children, Kenneth 4, Carol 14 and Victor-Wayne 3.



▲ Dr. McKusick has been involved in all aspects of medical genetics with extensive clinical patient care practice.

▼ Dr. Anne McKusick is a rheumatologist by profession. She is well versed in genetics too, and has been his great supporter and partner for the last 60 years.



# JAPAN PRIZE



Welcome Reception, April 21

## Japan Prize Week

The week of April 21 to 26, 2008, was designated as "Japan Prize Week" with many events.



Courtesy Call on the Japan Academy, April 22



Joint Press Conference, April 21



Commemorative Lectures, April 22



Courtesy Call on the Prime Minister, April 24



Dinner Meeting Hosted by H. E. Mr. Kishida, Minister of State for Science and Technology Policy, April 21



Academic Round-table Discussion, April 22



Holiday in Kyoto, April 26

## 2009 (25th) Japan Prize

The categories for the 2009 (25th) Japan Prize are "The transformation towards a sustainable society in harmony with nature" and "Technological integration of medical science and engineering". Candidates have been recommended through numerous letters of nomination received by the Foundation from all over the world. The 2009 (25th) Japan Prize Selection Committee has been established by the Foundation and the results will be announced in January 2009. The presentation ceremony will take place in April 2009.

### Field I: Environment/Infrastructure

#### Prize Category:

"The transformation towards a sustainable society in harmony with nature"

The limits of the global environment have brought us to a point in time when a reassessment is needed of modern technological society rooted in a social foundation of large-scale consumption of energy and resources. As we turn towards a sustainable society in harmony with nature that satisfies basic human needs, confers safety and security, fosters humanitarian qualities and conserves energy while emitting low levels of carbon dioxide, we will need to be able to synthesize knowledge from various fields, including scientific knowledge about the natural world and human activity and highly-evolved information science, together with insights about human societies, in order to achieve social change and re-create a new foundation for society. People are needed who can make a significant contribution to any of the requisite tasks, such as awakening people to the need for change, expressing a vision of the new technological society, creating a social foundation, developing key technologies needed to transform society, or promoting mutual awareness and integration of information and public opinion.

### Field II: Health Care/Therapeutic Technology

#### Prize Category:

"Technological integration of medical science and engineering"

Recent remarkable advances in clinical medicine have been achieved by integration of medicine, engineering, and related fields, enabling progress in the prevention, diagnosis and treatment of disease. Progress has been made in various areas, including imaging techniques, drug discovery, drug delivery systems, telemedicine, regenerative medicine, and simplified diagnostic techniques.

The prize for 2009 will be awarded for innovative contributions to health and health care through the development and application of technological integration of medical science and engineering.